

Vydyne® R413J BK0836

polyamide 66



Vydyne R413J BK0836 is a black, electrically neutral heat stabilized impact-modified, 15% glass-fiber reinforced PA66 resin. R413J BK0836 is designed to produce a light on dark mark using an IR 1064nm laser.

General

Regional Availability	• North America • South and Central America	• Europe • Near East/Africa	• Asia Pacific
Additive	• Heat Stabilizer	• Release agent	
Features	• Balanced Stiffness/Toughness	• Laser Markable	
Agency Rating	• ASTM, D4066 PA016G15	• ASTM, D6779 PA016G15	• SAE, J1639 PA1122
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical

	dry	cond.	Unit	Test Standard
Density	1.21	-	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	1.0	*	%	
Flow : 23°C, 2.00 mm	0.8	*	%	
Water Absorption				ISO 62
23°C, 24 hr	1.2	*	%	
Equilibrium, 23°C, 50% RH	1.9	*	%	

Mechanical

	dry	cond.	Unit	Test Standard
Tensile Modulus (23°C)	5200	3400	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	104	66	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	3.9	9.4	%	ISO 527-2
Flexural Modulus (23°C)	4900	3000	MPa	ISO 178
Flexural Strength (23°C)	130	79	MPa	ISO 178
Poisson's Ratio (23°C)	0.4	-	-	ISO 527-2

Impact

	dry	cond.	Unit	Test Standard
Charpy Notched Impact Strength				ISO 179/1eA
+23°C	12	11	kJ/m ²	
-30°C	5.1	6.3	kJ/m ²	
-40°C	4.8	6.1	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
+23°C	67	85	kJ/m ²	

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-30°C	65	68	kJ/m²	
-40°C	61	60	kJ/m²	
Notched Izod Impact Strength				ISO 180/1A
+23°C	11	11	kJ/m²	
-30°C	5.2	6.7	kJ/m²	
-40°C	4.8	6.4	kJ/m²	

Thermal	dry	cond.	Unit	Test Standard
Heat Deflection Temperature				ISO 75-2/A
1.80 MPa, Unannealed	238	233	°C	
0.45 MPa, Unannealed	257	255	°C	
Melting Temperature	260	*	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	32	*	E-6/K	
Transverse : 23 to 55°C, 2.00 mm	115	*	E-6/K	

Electrical	dry	cond.	Unit	Test Standard
Dielectric Strength (1.00 mm)	31	-	kV/mm	IEC 60243

Injection	Value	Unit
Drying Temperature	80	°C
Drying Time	4	h
Rear Temperature	280 - 300	°C
Middle Temperature	280 - 300	°C
Front Temperature	280 - 300	°C
Nozzle temperature	280 - 300	°C
Processing (Melt) Temperature	280 - 300	°C
Mold Temperature	65 - 95	°C

